

IN THE CLAIMS:

Claims 1-10 (Canceled).

11. (New) A gas spring for a pressing tool comprising a tube which forms a wall of a cylindrical chamber, a piston designed to at least partially rest against said tube and is capable of reciprocating axially in said chamber, a piston rod connected to said piston, and a piston rod guide; said chamber having a first end wall and a second end wall, said first end wall forming a first base surface of said chamber and said second end wall forming a second base surface of said chamber, said piston dividing said chamber into a first space between said piston and said first end wall and a second space between said piston and said second end wall, said piston rod guide positioned at said first end wall and designed to support said piston rod as said piston rod axially moves in said cylinder chamber, said piston divided into at least first and second portions, said piston including at least one passageway between ends of said first and second portions that permit a flow of gas between said first and second spaces in said chamber during axial movement of said piston rod, said first and second portions including gas passage structures that also permit a flow of gas between said first and second spaces in said chamber during axial movement of said piston rod, at least one of said first and second spaces including a gas pressure which acts on said piston so as to create an opposing force counteracting axial movement of said piston rod, said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is greater than about 5% of an area of said piston, said area of said piston being the difference between the cross-sectional areas of the chamber and the piston rod.

12. (New) The gas spring as defined in claim 11, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is at least about 7% of said area of said piston.

13. (New) The gas spring as defined in claim 12, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is up to about 70% of said area of said piston.

14. (New) The gas spring as defined in claim 13, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is up to about 25% of said area of said piston.

15. (New) The gas spring as defined in claim 11, wherein said gas passage structures in at least one of said first and second portions include at least one opening through said portion.

16. (New) The gas spring as defined in claim 14, wherein said gas passage structures in at least one of said first and second portions include at least one opening through said portion.

17. (New) The gas spring as defined in claim 16, wherein said gas passage structures in said first and second portions include a plurality of openings through said portions.

18. (New) The gas spring as defined in claim 11, wherein said gas passage structures in at least one of said first and second portions include at least one recess in the peripheral surface of said portion.

19. (New) The gas spring as defined in claim 14, wherein said gas passage structures in at least one of said first and second portions include at least one recess in the peripheral surface of said portion.

20. (New) The gas spring as defined in claim 19, wherein said gas passage structures in said first and second portions include a plurality of recesses in the peripheral surface of said portions.

21. (New) A method of reducing a pressure gradient that occurs between a first space and a second space in a pressing tool gas spring which comprises:

providing a tube which forms a wall of a chamber, said chamber having a first end wall and a second end wall, said first end wall forms a first base surface of said chamber and said second end wall forms a second base surface of said chamber;

providing a piston designed to at least partially rest against said tube and is capable of reciprocating axially in said chamber, said piston dividing said chamber into a first space between said piston and said first end wall and a second space between said piston and said second end wall, said piston divided into at least first and second portions;

providing a piston rod connected to said piston;

providing a piston rod guide, said piston rod guide positioned at said first end wall and

designed to support said piston rod as said piston rod axially moves axially in said cylinder chamber;
and,

providing a gas in said cylinder, said piston including at least one passageway between ends of said first and second portions that permit a flow of gas between said first and second spaces in said chamber during axial movement of said piston rod, said first and second portions including gas passage structures that also permit a flow of gas between said first and second spaces in said chamber during axial movement of said piston rod, said gas creating a gas pressure in at least one of said first and second spaces which acts on said piston so as to create an opposing force counteracting axial movement of said piston rod, said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is greater than about 5% of an area of said piston so as to reduce heat generation as said piston rod axial moves in said chamber, said area of said piston being the difference between the cross-sectional areas of the chamber and the piston rod.

22. (New) The method as defined in claim 21, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is at least about 7% of said area of said piston.

23. (New) The method as defined in claim 22, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is up to about 70% of said area of said piston.

24. (New) The method as defined in claim 23, wherein said at least one passageway between ends of said first and second portions of said piston and said gas passage structures in said first and second portions of said piston occupying an area which is up to about 25% of said area of said piston.

25. (New) The method as defined in claim 21, wherein said gas passage structures in at least one of said first and second portions include at least one opening through said portion.

26. (New) The method as defined in claim 24, wherein said gas passage structures in at least one of said first and second portions include at least one opening through said portion.

27. (New) The method as defined in claim 26, wherein said gas passage structures in said first and second portions include a plurality of openings through said portions.

28. (New) The method as defined in claim 21, wherein said gas passage structures in at least one of said first and second portions include at least one recess in the peripheral surface of said portion.

29. (New) The method as defined in claim 24, wherein said gas passage structures in at least one of said first and second portions include at least one recess in the peripheral surface of said portion.

30. (New) The method as defined in claim 29, wherein said gas passage structures in said first and second portions include a plurality of recesses in the peripheral surface of said portions.